JORDAN CHUNG

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SKILLS

- Programming Languages: Java, Python, C++, C, HTML, CSS, JavaScript, PHP, and SQL.
- Libraries and Frameworks: React, Flask, Pandas, TensorFlow, Matplotlib, PyTorch and NumPy.
- Hardware and Electronics: VHDL, Verilog, FPGAs, Quartus II, NIOS II, and KiCAD, LTspice, and Oscilloscopes.

EDUCATION

Smith Engineering, Queen's University, Kingston, ON **Sept 2023 – April 2027**

Bachelor of Applied Science (B.A.Sc.) and Smith Certificate in Business

- QMIND Design Team Member; Queen's Aerospace Design Team Engineer; Queen's Solar Design Team Member; Queen's Men's Varsity Rowing Team.
- Neil and Jean Lund Award; Science '56 Bursary Recipient; Ontario Scholar Recipient.

PROJECTS

AI Movie Recommendation Platform **Dec 2024 – Present**

- Created an interactive web app allowing users to like and dislike movies to receive personalized recommendations using React for the interface, and Node.js for the backend processing.
- Researched custom algorithms to tailor movie recommendations for the user based on their liked movies.
- Integrated TMDB API to fetch real-time data, ensuring an extensive and up to date database for users to interact with.

Computer Vision Model Development for Competitive Robotics **Sept 2024 – Present**

- Developed an AI model using YOLOv5 able to track and identify opponent robots based on specific LED colour cues.
- Applied data pre-processing techniques, such as noise reduction, feature scaling, and sharpening to improve model accuracy by 8% processing over 1000 test images.
- Collaborated with the robotics team to integrate the model into the competition framework, ensuring precision and reliability under various conditions.

Home Environment Monitor **Sept 2024 – Dec 2024**

- Designed a home environment monitor using Arduino to detect issues such as poor air quality, mold, and allergens.
- Added wireless data transfer from the Arduino to the website using a Wi-Fi connection, SQL and PHP, allowing for efficient data processing and real-time communication to the server.
- Built an interactive website to alert users and display sensor data in real-time providing an accessible platform for users to monitor up to 5 different home conditions simultaneously.

Traffic Signal Management System **Sept 2024 – Dec 2024**

- Implemented a finite state machine in VHDL for a traffic light controller on Altera DE0 FPGA board.
- Tested the system using Quartus II to verify the design of the traffic light system met the design requirements.
- Configured the FPGA with custom pin mappings to buttons, switches, and LEDs for accurate traffic signal behavior.

Queen's Hyperloop Design Team Sensor **Dec 2023 – May 2023**

- Developed a computer vision system using the YOLOv8 model to detect small objects surrounding the hyperloop pod to alert the user of potential hazards.
- Trained a machine learning model to identify detected objects and potential hazards based on custom test cases.
- Designed a software application to display sensor results in a user-friendly interface using Flask.
- Collaborated with the technical subsystems team on QHDT to ensure straightforward integration of the sensor.

Automated Fluid Dispenser Prototype **Sept 2023 – May 2023**

- Collaborated with a team of 6 people to design an automated fluid dispenser using engineering design practice.
- Optimized design using Prusa Slicer to reduce acrylic usage when 3D printing while decreasing printing time by 30%.
- Implemented various electrical components onto the prototype and created a computer program within the Arduino IDE to control the electrical parts of the automated fluid dispenser.

EXTRACURRICULAR EXPERIENCE

Queen's Varsity Rowing Team, Kingston, ON **Sept 2023 – Dec 2024**

- Effectively time managed six 5:30 am - 7:30 am practices and dedicated upwards of 20 hours a week to high-performance training while maintaining a full course load.